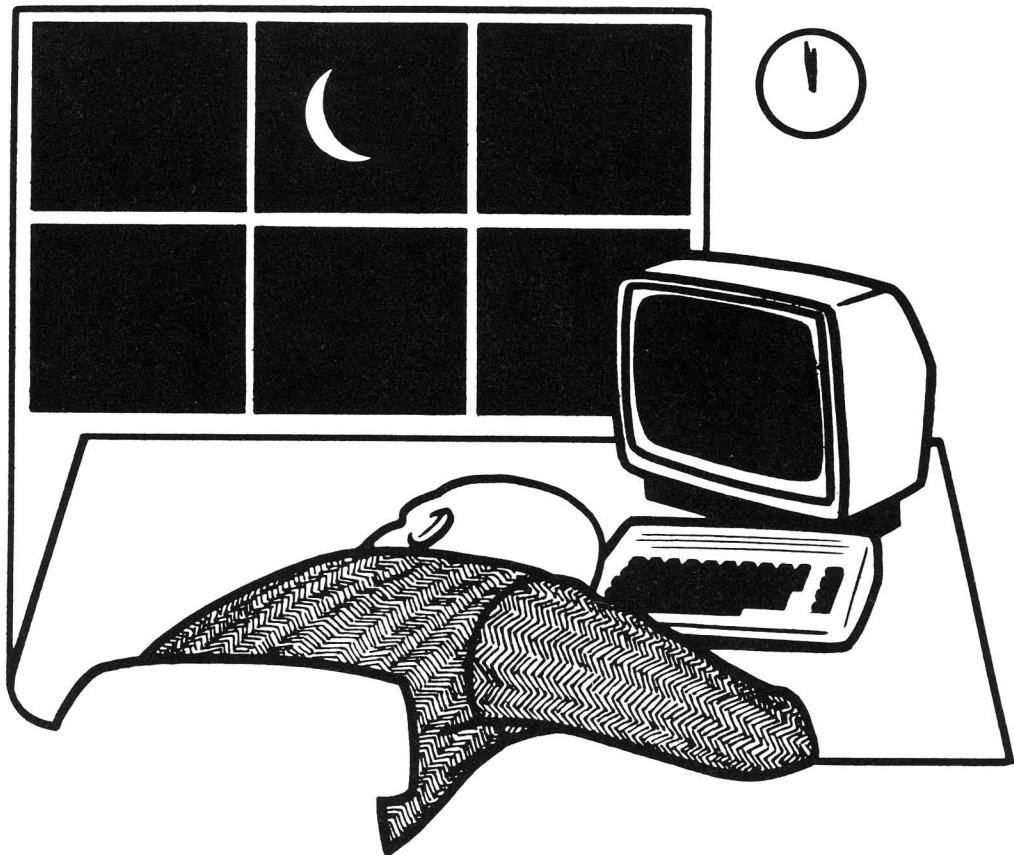


Midnite Software Gazette

The First Independent U.S. Magazine for users of Commodore brand computers.



In this issue:

Midnite XPress	-----	1
NCC Report	-----	3
Book Reviews	-----	5
Utility Reviews	-----	7
Educational Reviews	-----	9
Articles Begin	-----	12
Midnite Review Form	-----	16

★ COMMODORE USERS ★

Join the largest, active Commodore users group.

Benefit from:

- Access to hundreds of public domain programs on tape and disk for your Commodore 64, VIC 20 and PET/CBM.
- Informative monthly club magazine

Send \$1.00 for Information Package.
(Free with membership).

TPUG yearly memberships:

Regular member (attends meetings)	-\$30.00 Cdn.
Student member (full-time, attends meetings)	-\$20.00 Cdn.
Associate (Canada)	-\$20.00 Cdn.
Associate (U.S.A.)	-\$20.00 U.S.
	-\$25.00 Cdn.
Associate (Overseas — sea mail)	-\$30.00 U.S.
Associate (Overseas — air mail)	-\$40.00 U.S.

TPUG Inc.

DEPARTMENT "N"

1912A Avenue Road, Suite 1
Toronto, Ontario, Canada M5M 4A1

* LET US KNOW WHICH MACHINE YOU USE *

Published by: Micro-PACE Computers Inc.

Editor-in-Chief: Robert Wolter
Jim Oldfield Jr.

Editor: Tim Sickbert

Art Direction: Art Lewis Kimball

Assoc. Editors: Jim & Ellen Strasma
Robert Baker
Dr. Richard Immers
Art Lewis Kimball

Subscriptions: 1-800-362-9653

One Year Price: \$23 US \$28 CDN
\$33 S \$43 AIR

Questions, back issues, Problems: 1-217-356-1885

BBS Number: 1-217-356-8056
(300 BAUD)

Address for Subs.

And Reviews: Post Office Box 1747
Champaign, IL. 61820

Other

Correspondence: 1510 N. Neil St.
Champaign, IL. 61820

Issue 27, 1985 September

All contents (C) copyright 1985, Micro-PACE Computers Inc

PET, CBM, VIC-20, Commodore 64, Amiga
Commodore 128 PC, PC-10, PC-20, are
all copyrights or trademarks of
Commodore Electronics LTD.

The Guide

A Monthly Publication For
Commodore Owners

Formerly "The Northwest Users Guide"

Offering a unique approach to computer
education and support — with a personable,
and even humorous touch.

Commodore News and Information
Programming Tutorials—Beginning and Intermediate
Software/Hardware Reviews
COMAL Support

And follow the continuing adventures of COMPU-DUCK
(found only in THE GUIDE)



Send today for a complimentary copy,
or send \$15.95 for a One-Year
subscription to:

The Guide
3808 S.E. Lycintra Court
Milwaukie, OR 97222
(503) 654-5603

What should you expect for \$35? Everything.

The Intelligent Software Package for **C-64™, VIC™, SX-64™, C-128™, LCD™, Plus 4™, 16™, B-128™, and PET/CBM™**. An integrated home/business/educational package of 25 programs (totaling over 51 pages of source code) that will put your Commodore to work right now, in your home or office; all on disk or tape at the ridiculous price of **\$35**. One customer writes: "... accolades for the authors. This is as slick a deal as I have seen and more than adequate for all except fancy presentations. The best thing is the ease of use ..." The package includes:

Database: A complete multi-keyed fixed-record-length data base manager. Sort or select (using all relational operators: =, >, <, AND, OR, NOT, wild card) on any field, perform computations on numeric fields. Any operation can be performed on all, or only selected records. All fields completely user-definable. Can be used for any number of tasks, including accounting, mailing lists, inventory control, record, tape, or book cataloging, expense account maintenance, or as an electronic rolodex. Even if you use your Commodore for nothing else, this program alone might justify its expense.

Word Processor: A full-featured menu-driven word processor including: very fast file commands, screen editing, text locating and full control over margins, spacing, paging, indentation, and justification. "... well done and highly functional ... Provides an excellent alternative to the high priced word processors ... this is an excellent buy. Highly recommended." — Midnite Software Gazette. "Provides good basic features." — Compute's Gazette.

Copysalc: An electronic spreadsheet. Turns your Commodore into a visible balance sheet; includes screen editor. "Excellent program for budgeting, estimating, or any math-oriented use ... well worth the money. Highly recommended." — Midnite Software Gazette.

Also included: **ReportGen, ReportMerge** (interface W/P with Database to create form letters, statements, invoices, mailing labels, other reports.); **Baseball Statistician** (compiles batting statistics for a baseball league); several W/P utilities, including **Index** (indexes W/P's text files); several Database utilities, including **DBmerge** (facilitates multi-file database applications.), and **DBStat** (analyzes D/B files); a programming utility, **ASCII**, which converts text files (program listings) into program files; also **Checkbook; Inventory; Paper Route; Loan Analysis; Breakeven Analysis; Depreciation; Labeler; File Copier;** more.

Versions of the package are available for every Commodore computer having a minimum of 10k RAM. All programs will support tape, disk, and printer. Price includes documentation and shipping; Calif. residents add 6%. Add \$3 for credit card, COD, 8050 disk, or tape orders (disk only for Plus4™ and 16™.) No personal checks from outside USA. This ad is the catalog; a sampling of program output is available for \$2.

Intelligent Software
Quality Software since 1982

Box A Dept. M-4
San Anselmo, CA 94960
(415) 457-6153

THE MIDNITE XPRESS NOTES

Last issue I promised a major announcement about the MIDNITE this time, and now it can be told. MIDNITE is now published by Micro-PACE Computers Inc., owned by Robert Wolter, rather than by Midnite Software.

Micro-PACE is Jim Oldfield's other job, and that's good news for both our dealers and our subscribers, because it lends a stability to the magazine that three people working odd hours of spare time could never touch. Our new monthly format will continue, and Micro-PACE has now made it official that beginning with our first monthly issue this past summer, all subscriptions are for 12 issues rather than six, at the same price as before.

For the benefit of our new readers, one primary reason for this change is to make it possible for me to complete my second Master's degree, this time in Computer Science. After four months in Macomb, Ill., I want to thank each of you for your cooperation in enabling what has become one of the happiest times in my life. My studies, teaching, and pastoral work here are all immensely satisfying, and an incredible contrast to our last days in Lincoln.

No words I'd be willing to print would adequately describe the actions of my former dean, Tom Zurkammer, in and around the last Lincoln College Commodore Computer Camp, so I won't try. In the span of a single week, I was converted from continued support of a college I loved, to fervent hope that everyone who respects either me or justice will boycott Lincoln College Commodore Computer camps so long as he remains there.

But enough of that; my troubles that month were nothing compared to my present joys, and less than nothing compared to Commodore's summertime woes. The Big C had every bit as rough a summer as Chairman Irving Gould predicted it would

in early June. Enough people were laid off this summer, and enough money lost despite the resulting savings, to assure Commodore's future rides primarily on the success of the C-128 and Amiga. After recent disclosures that Commodore will have some problems in meeting the requirements of several lenders who bankroll Commodore, and a multi-month FCC-inspired delay in shipping the C-128, Commodore stock began slipping again, from a recent high of about \$11 when the Amiga was announced, to about \$8 a share today.

The funny thing about all of this is that both the 128 and Amiga are shipping now, and both garnering rave reviews. If the company can just stay in business long enough to get the new computers into wide distribution with plentiful software and accessories, Commodore stock will have to go back up.

Commodore's own term for the Amiga is essentially correct; it is, in many ways, the first Personal Supercomputer. Although many competitors have not realized it yet, this is the year we finally and permanently break through the performance barrier that has kept all small computers working at more or less the speed of 1977 vintage micros until now. Better yet, thanks to the Amiga's PC emulation, we give up absolutely nothing to attain vastly-improved performance.

Meanwhile, the c-128 provides the same advantages to c-64 owners; larger memory and storage, higher speed, and better video resolution; but for less money than an Amiga, and with even more software immediately available. In retrospect, I think their compatibility with popular than either the new Atari 520 or the Apple Macintosh, neither of which is compatible with anything but itself.

How soon will I buy an Amiga? That depends; I have a confession to make. I

think I may finally understand the mainframe mentality--people who have free access to as many mini and mainframe computers as I do now in my studies really don't need as much performance from a micro as the average user, and don't want to make any allowances for it. When they need high speed and lots of storage, all they have to do is dial up a mainframe.

So I may wait a bit to shell out for an Amiga, but you can bet I'll be rooting for Commodore this Fall, and probably even buy some more stock if it keeps dropping in price. Jim Strasma.

Jim Strasma and I began the MIDNITE SOFTWARE GAZETTE to help users choose products available for Commodore's computers. Many machines and literally thousands of reviews later, the MIDNITE has continued. But with Jim's diversities and my own dwindling hours something had to happen. Thus there have been changes.

On the cover and in the credits you'll notice a new publisher: Micro-PACE Computers owned by Bob Wolter. Many readers may not know that Micro-PACE has been my full time job since 1982. Micro-PACE has always supported the MIDNITE in some fashion. From products provided for reviews to moral support Bob Wolter has always been a friend. I honestly feel that this change is a good one.

The MIDNITE SOFTWARE GAZETTE under Micro-PACE's guise now has a larger staff. There's a phone number you can call in case you have a subscription or order problem. There is a TOLL FREE number that excepts subscriptions and we now honor VISA, MASTERCARGE and AMERICAN EXPRESS as payment. As MIDNITE becomes a full time endeavor for me and the staff at Micro-PACE I hope you enjoy the magazine

even more.

The MIDNITE SOFTWARE GAZETTE set the standard in the Commodore world for honest, concise, and timely reviews. Our magazine stands for the users that want this type of journalism. We will not detour from that standard. Other Commodore magazines have come and gone, all touting they were the only one to read, the MIDNITE continues. As our logo depicts, we're Commodore users with a shared interest and conviction. We may not have always been pretty on the outside; but on the inside we've always strived for the quality that we expect from ourselves.

No other Commodore magazine gives as large a discount to CBM users groups as we do.

Why? Because it was (and still is) our way of thanking you for all the help you have generously given us.

And it hasn't stopped yet. The reviews published in the MIDNITE SOFTWARE GAZETTE ARE the MIDNITE. Reviews will always be the bulk of the magazine. Micro-PACE is paying for reviews that are published.

One and two page articles are being excepted as well. The style and the reviews will not change. Look at a MIDNITE a year from now and compare.

Let's see if I'm right.

The glossy, slick covered, commercialized corporate controlled magazines will always be around. For you, with you, the MIDNITE SOFTWARE GAZETTE will always survive.

Jim Oldfield Jr.

Competitors Notes

NCC REPORT

My first reaction on returning from the National Computer Conference in Chicago several weeks ago was that I'd wasted a day attending. It was amazingly dull, with the most memorable products merely "me too" laser printers and AT clones. However, from a greater distance, there were some worthwhile products at NCC, ones you'll hear much more about in months and years ahead. Here's a brief rundown of the "keepers", products whose brochures I found worth keeping even after a second reading:

PC PERIPHERALS

Quadram has developed a new version of its Quadboard multi-function card called the Gold Quadboard. It adds a piggyback PC color graphics card and a unique battery protected keyboard buffer memory to a traditional multi-function card, thereby allowing users with limited slots to free one more.

Quadram has also addressed this year's hottest new add-on market with an enhanced version of the new Intel/Lotus/Microsoft memory expansion scheme, with versions for both the PC and the AT. Incredible though it seems to some, the PC's most pressing need has recently been a way to go beyond 640 K RAM: the new Liberty and Quadmeg boards add an additional 2-4 Meg each, and may be combined up to 8 Meg total. With the bottom dropping out of memory prices, a 2 Meg board now goes for under \$1000.

One more Quadram product worthy of mention is a new version II of its Micro-fazer printer buffer, able to buffer up to 2 Meg of output on its way to a printer via serial or parallel ports. That's enough memory to hold almost any document and free your computer for the next task.

Lots of companies offer hard disks for the PC, but among the most interesting is the new Hardcard, from Plus Development, a 10 Meg unit that simply plugs into a PC card slot as though it were just a memory card.

This allows its maker to include a warranty, that simply swaps out defective

units. With an average of 25% of all hard drives failing in their first year, the hard card has become popular with dealers and customers alike.

Tandy was also present with a new version of the Bernoelli Box flexible disk cartridge for the Tandy 1000, plus enough other accessories for the 1000 to make clear Radio Shack is very fond of the 1000. Unfortunately, the Bernoelli Box is still priced out of the reach of mere mortals.

Printers

The big news at NCC, such as it was, was printers -- not new kinds, but more makers and lower prices. The two hottest versions were 24 pin dot matrix units and 300 dot lasers. Japanese makers Kyocera (makers of the Tandy 100), Ricoh and Konica (long-time camera makers) all had new laser printers they hope can compete with the very popular Canon print engine used by both Hewlett Packard and Apple.

Canon was also present with its own version of the well-known product. The new competition should inspire price reductions in the coming year.

Meanwhile, a 24 pin printer provides very readable text for around \$1000. Toshiba's 351 and 1340 models are almost good enough to replace a daisy wheel printer in ordinary business uses, and both Epson and NEC offered new 24 pin printers as well.

this time, however, IBM outclassed them all with an inexpensive printer that can easily print an envelope without having to reload the regular paper afterwards.

Laser Disks

Even more interesting for me though was Grollier's new electronic encyclopedia, already available on CompuServe, and soon to be sold on Laser video disks, and as a CD ROM (same thing, except you read it with a computer instead of a TV.) You've probably already heard this product touted as proof of the technical brilliance of Jack Tramiel's "new" Atari, but actually the encyclopedia will also be available at the same time in versions for both

Commodore and IBM personal computers. The price of the video disk will be \$90, plus \$200 for a CD disk player. Besides being cheaper than a regular encyclopedia, having a version on disk should allow very complete searches of any word used anywhere in the encyclopedia. With any luck, the complete works of Shakespeare, the Bible, and other classics will also be made available during the next year or so.

New PC's

Zenith came to NCC with a whole lineup of new PC's, including an almost lap-size LCD screen model, a new luggable without the strange pop-up disks of its predecessor, desk models with a faster clock, and a new AT clone claimed to be 1/3rd. faster than IBM's original. Zenith also brought new lower prices for each of these models: if traditional school and government discounts are maintained, Zenith should continue to be very popular in those markets.

No Software

Unfortunately, new software worthy of note was almost non-existent at NCC. All I found was a Thesaurus that works inside my Word Perfect word processor, but since the last time I needed a Thesaurus was over 20 years ago, I decided I could live without it.

It seems to me that further advances in software will now have to wait until added memory and added users are better supported by system software, due to happen with the release of PCDOS 4.0 early in '86. Then I expect to see mind-boggling programs that will make the PC AT essential rather than a mere turbo card under another name. (Just in time for IBM too -- Commodore's new Amiga has been drawing very favorable comments in PC magazines for its extreme speed and PC-compatibility.)

Finally, a local software note -- the Great State of Illinois was present with a booth to assure everyone knew what a great place this is for software developers to work. I have to admit it was news to me,

but it makes sense after a bit of thought.

Several important software companies are located in Illinois. Unfortunately, neither WIU nor Midnite Software were cited as Illinois software treasures in their NCC brochure.

Truth in Advertising

Commodore patriots need to be aware of Atari ads offering "comparisons" of their new 520 with the Amiga, Apple's Macintosh, and IBM's AT. In the ads, Amiga is shown as having 256K of RAM, compared to Atari's 512K. However, Amiga has another 256K of RAM, reserved for its operating system, and not included in the advertised total. Atari's memory isn't all available either, but only Commodore says so honestly. Second, the Atari ad compares the price of a 520 with a cheap monochrome screen to an Amiga with a high-resolution RGB color monitor, even though the Atari in the ad has a color screen. Finally, the ad manages to almost ignore the Amiga's advantages in graphics, sound, speed, and compatibility.

Fortunately, the ads may backfire on Atari: by admitting that the Amiga is in the same league as the up-scale AT and Mac, Atari has given the Amiga an aura of great success and respectability. JS

New Nets

Another area of big changes at Commodore is in their SIG on Compuserve. Commodore is spinning off most of it to TPUG, which had been preparing to do great things on another network, Commodore is leaving a smaller SIG on Compuserve, and switching its own efforts to still another dialup network this Fall. JS.

Readers may also look forward to seeing the MIDNITE on Delphi's system this fall as well. John Easton, Len Lindsay, Steve Punter, and myself are working on a larger and much improved Commodore SIG on Delphi. Look for a future issue on a complete break down of all the telecommunication systems available to Commodore computer owners. J Oldfield Jr.

Book Reviews

The COMMODORE PUZZLE BOOK: BASIC BRAINTEASERS

By: Gordon Lee & Nevin Scrimshaw

Published by Birkhauser

ISBN 0-8176-3167-4

Reviewed By: Robert W. Baker

15 Windsor Drive, Atco, New Jersey 08004

This short page paperback presents 50 brain teaser's for you to solve by writing short programs on your home computer. The puzzles are in random order without regard to mathematical or programming difficulty. They are not overly complex and do not require advanced knowledge of mathematics, but you will have to put your thinking cap on.

The book is divided into three sections: 1) the puzzles; 2) a brief explanation with hints and a suggested program listing for each puzzle; 3) the actual answers, but without a program listing.

The entire book could be used on most any computer. The suggested programs use very straightforward programming techniques and make little use of any special Commodore features. Even though the back cover mentions color, sound, and high resolution graphics they are not covered within the text.

This book is not meant to teach programming techniques, but to stimulate thinking in ways to use your computer. If you have the time and enjoy doing puzzles, or just want a challenge for applying your new programming abilities, you should find this book interesting.

A GUIDE TO PROGRAMMING THE COMMODORE COMPUTERS

By: Bruce Presley

From Van Nostrand Reinhold

and Lawrenceville Press, Inc.

Softbound, 260 Pages, \$15.50 Retail

ISBN 0-442-27375-4

Reviewed By: Robert W. Baker

15 Windsor Drive, Atco, New Jersey 08004

Here's a programming manual that was developed and extensively tested for classroom use and is now available for individual study. It was designed to help people exploit the capabilities of their Commodore-64 or VIC-20 computer while learning good programming techniques. Topics are discussed individually so you can select the sequence that interests you.

The first chapters are a basic introduction to programming and include good discussions on variables, decision making, and simple loop controls. These are followed by a quick diversion on random numbers and a few games, then back to nested loops and subscripted variables. Subroutines are included with information on general programming and debug techniques.

Graphics, sound and joystick control are covered in a single chapter, with the discussion of sound in the Commodore-64 covering only the first of three available voices. This is followed by a discussion on cassette and disk files, but with no mention of random disk files. Three appendices cover the screen editor along with basic cassette and disk operations, but this information is very cursory and not much more than found in the Commodore manuals.

Each chapter has review exercises and comprehensive problem sets that offer an opportunity to try out new skills. Solutions to the odd number problems are presented at the back of the manual if you need any help. Exercises represent about 35% of the book.

The material is clearly and concisely presented with few typographical errors. If you know how to program but want to learn more about the Commodore systems better books are available.

The COMMODORE-64/VIC-20
BASIC HANDBOOK

By: Douglas Hergert

Published by Sybex

ISBN 0-89588-116-0

Reviewed By: Robert W. Baker

15 Windsor Drive, Atco, New Jersey 08004

This book is promoted as a side reference for programming the Commodore-64 or VIC-20. The material is presented in alphabetical order, covering each of the Basic commands and functions as well as general computer vocabulary terms. Most of the commands have simple examples or sample programs to help illustrate typical uses.

The technical content is typically informative and concise but occasionally glosses over certain areas much too quickly. There are a few areas where the information is incomplete, misleading or incorrect. All comments on VIC-20 addressing assume unexpanded memory.

Written at a beginners level, the dictionary style organization is more suitable for intermediate or advanced users. This book is only useful if know what commands and functions exist but have forgotten how they work or need more information on how to use them in a program.

HOME APPLICATIONS AND GAMES FOR THE C-64

BY Timothy Banse. 1985. 122P. \$15. BASIC programs paperback for the C-64 from Little, Brown & Co., Boston, MA. Diskette of matching programs \$10 extra, (untested).

Just what the world needs, another book of simple BASIC programs: fortunately, this one is better than most. In my opinion, there are two things such a book can do for you. One is give you useful programs (nearly all fail at this). The other benefit is more tangible: one of the best ways to learn BASIC programming is by studying good BASIC programs and debugging your typing errors. That is why I prefer straight BASIC and assembler source code

listings over the popular idiot-proof MLX and Proofreader programs. Though they protect you from errors, they also protect you from learning anything about your computer. With this book and a reference manual to the BASIC keywords, you can learn to program through debugging, rather than with a textbook. Its many programs are all quite short and simple, well written and documented, as well as more varied and useful than in many such books.

The listings are clearly printed, and carefully avoid all special commodore characters. About all the book really needs is a BASIC syntax reference page and instructions on how to save programs once entered. Reviewed by Jim Strasma.

MASTERING THE COMMODORE 64

by Mark Greenshields for the C-64.

This book deals mainly with graphics and sound. It starts out showing you how to program them in BASIC and then moves to programming them in machine language. The book also has many helpful charts, like a memory map of the 64 and descriptions of the 6510 machine code instructions. For a beginner, I would highly recommend this book. It would also be a good buy for someone who wanted to start programming in machine language. Doug Speta.

Utility Reviews

SM-KIT 64

Basic/ML Programming Aid for the 64.
\$29.95 diskette
SM Software Inc., RD #1, PO Box 323
Mertztown, PA. 19539

SM-Kit 64 is one of the best programming aids to come along in a long time, and the first to truly rival SYSRES in its power. The program contains three options: SM-Kit B is a very powerful BASIC programming utility. The programming aids are excellent, and, although the documentation claims there are 'no frills' there are a number of features that make this more powerful than SYSRES. Features include: block renumbering; error trapping; and a **VERY** powerful FIND feature, and all the other standard programming aids.

SM-Kit M offers programming aids, testing facilities, assembling, disassembling, debugging and analysis for 6502 machine language programming.

SM-Kit F is a very powerful disc monitor that provides direct access to disc and drive memory including block read and write, check link bytes, set link byte pointers and assemble/disassemble.

SM-KIT 64 is an extremely powerful package destined to become a must in any serious programmers library. Highly recommended.
Art Lewis Kimball

S'MORE

Basic Programming Aid PLUS for C64.
\$39.95 Cartridge from Cardco, Inc., 300 S. Topeka, Wichita, KS
LIFETIME GUARANTEE!

When VICtree was introduced a couple of years ago, everyone was very excited about it. S'MORE has even MORE (catchy, huh?) power, and overcomes VICtree's few drawbacks.

Most important, although it is a ROM...you give up NO memory to use it. To the contrary...it FREES UP 61,183 bytes of unrestricted memory!! This really works! We ran a program which was at its absolute limit using the S'MORE cartridge and were able to add several more arrays and

variables to the program!

S'MORE gives you Basic 6.5 commands, including relative file commands, print using, if-then-else, and many, many more. It provides direct access commands for many of the infamous Commodore peeks and pokes.

If S'MORE has any disadvantage at all, it is that like any extended BASIC, a program using the extended features can only be run on another machine which has the S'MORE cartridge installed...but even if one only uses it for the program manipulation and debugging features it's well worthwhile.

A REAL plus is that it works with the C64 area of the C-128...and makes your 64 mode almost as easy to use as the 128 mode (which has Basic 7.0)

Very highly recommended. Art Lewis Kimball

WORDPRO-128

Word processor for the C-128/1571 by Steve Punter. \$99.95 diskette. Pro-Line Software LTD, 755 The Queensway E. Unit 8, Mississauga, ONT.

The first generally-available product SPECIFICALLY for the C-128 is basically Wordpro64 with a few additions.

All of the popular features of Wordpro64 remain in the C-128 and are enhanced by the 80 column input and video output and the ability to input 500 80-column lines per file.

The video output mode displays underlines on the screen, and is supposed to display bold as well...without an RGBI monitor we were restricted to a poor b/w display on the 1702 and can't verify this.

The disk is two-sided with 80-column mode on one side and 40-column on the other. We could not get the 40-column mode to load from either the 1541 or the 1571 in either 64 mode or 128 mode. Disk access time is somewhat quicker with the C-128/1571 combination in 80-column mode.

The only real complaint is the instruction manual which is poorly written, full of

omissions, and has not been improved in the last couple of years. If Steve Punter REFUSES to improve the manual, at LEAST he could re-write the index so one could find those things that ARE included.

Highly recommended. Art Lewis
Kimball

ED. Note: One very important feature Art did not mention was the HELP command. By pressing the 'HELP' key on the C-128 an insert of commands is available for you to read. Three pages worth! With this command you don't need to look through the manual to find what you need.

ON TRACK

Disk alignment package for the 1541 and SX-64.

From SchuLace Enterprises
PO Box 771, Cascade, MD 21719
\$15.98 Retail

This alignment package includes a diskette with utility programs for positioning the drive head, stopping head banging when loading protected programs, backing up diskettes with a single drive, and checking your drive alignment attempts.

You also get a small plastic device referred to as the 'precision track indicator'. A small printed scale on the plastic strip will indicate what track the head is positioned to at any given instant. To use the entire alignment system you must disassemble your drive, attach this plastic strip to the head assembly, and add shims or washers when reassembling the cabinet to allow the plastic strip to protrude through the front. Once installed, the plastic strip will move in and out of the cabinet as the drive head moves across the disk surface.

The 12 page instruction pamphlet completely covers the steps to install the plastic strip and align your drive, with plenty of photographs. **Extreme caution** should be exercised when working inside your drive. If you don't know what you're

doing you could completely destroy your drive. I wouldn't recommend this package for everyone, only experienced experimenters or electronic techs. I'd rather pay the few extra dollars and have a technician do the job right. Reviewed by Robert Baker.

HELP MASTER

From: Master Software
6 Hillery Ct, Randallstown, MD 21133

A handy little program for first time BASIC programmers. HELP MASTER is a machine language program that loads under the BASIC ROMs on a Commodore-64 to provide easy access to brief descriptions of every BASIC command.

Once loaded and run, the utility is linked into BASIC. Simply type a quote followed by the command in question. Immediately a half screen display shows the command syntax, abbreviation, a brief three line description, and the location of additional information in the Commodore-64 manuals and the HANDBOOK OF BASIC FOR THE COMMODORE-64 (Brady Communications).

The handbook from Brady is supplied with the HELP MASTER-64 program disk. If you should obtain a copy of HELP MASTER-64 without the book, Master Software will send you a copy for \$11.50, no questions asked!

If you have trouble finding information in manuals, this is the answer. It's a pretty good bargain for newcomers and a handy tool when writing original programs. Unfortunately, it cannot be used with the new checksum programs when entering programs from the magazines. Reviewed by Robert Baker.

Education Reviews

SCIENCE 1 (The Human Body--An Overview) & SCIENCE 2 (The Skeletal System), from Brainbank, 220 Fifth Avenue, New York, NY 10001

Review by Meredith Jones Frummer
as discussed with Thomas F. Trocco
KIDS America, American Public Radio

SCIENCE 1 is a 2 sided disk with 8 programs: an introduction, tutorials for the muscular, skeletal, digestive, circulatory, respiratory, and nervous systems, and a review test, all with three speed options.

The tutorials are well designed--no penalties for wrong answers, rather an occasional hint--plus good graphics and sound. The package includes a learning guide & a booklet about microcomputers. My one complaint is that, because the system is marketed for the Apple, IBM, and TRS-80 as well as the 64 and PET, there are no loading instructions. It at least could have an insert or have the instructions on the disk label

SCIENCE 2's format is similar to Science 1's, but it's a one-sided disk with 5 programs: 'A bone To Pick', Major Skeletal Bones, Joints, Ligaments and Cartilage, and a Review test. You can learn why you have a skeleton, what bones are made of, and the names of the bones in the body. In addition, the Learning Guide that comes in the package has lots of great activities you can do at home.

CONNECTIONS, from Krell Software Corp., 1320 Stony Brook Road, Stony Brook, NY 11790

Review by Meredith Jones Frummer
as discussed with Thomas F. Trocco
KIDS America, American Public Radio

CONNECTIONS is a series of games for the C64; Apple II; TRS-80 I, II, & IV; & the PET, for one or more players. The four games are Birds of a Feather, Connections,

Partitions, and Newton. I tried Birds of a Feather. Categories are: Numbers, Mammals, Chemical Elements, States, Tools, and Everyday Objects. Objects in these categories are stored in databases on the disk and are used by the game you pick. The age range is wide with Everyday Objects good for younger kids, and some of the others for adults. In Birds of a Feather, you are given three objects from a category. You have to add to the list according to a hidden rule, though you can see the rule first if you want. If you guess the rule you tell the computer to show you the rule to see if you were correct. For example, in one game the hidden rule was all arboreal (or tree-living) animals. When I chose arboreal animals, such as a squirrel, the computer told me I was correct. When I chose a non-arboreal animal, such as a cow, the computer told me I was wrong. You can create your own databases or add to those already on the disk. These games are best if you first play them with an adult to get a start in learning how they work.

CELLS from Educational Activities, Inc.. Freeport, NY 11520.

Review by Meredith Jones Frummer & Tom Trocco,
KIDS America, American Public Radio

CELLS is a two-part program with tutorials about cell structure, reproduction, internal function, and more! The graphics are great, and the text is easy to understand with a pronunciation guide for long words. A game at the end serves as a small test and gives an encouraging message for correct answers. This program is really good for ages 9 and up; I liked it a lot. Educational Activities also produces PARTS OF THE MICROSCOPE and HEART LAB, available for the 64, PET, Apple, Atari, and TRS-80.

MEASUREMENTS distributed by K-12 MicroMedia, 172 Broadway, Woodcliff Lake, NJ 07675.

Review by Meredith Jones Frummer &
Tom Trocco,
KIDS America, American Public Radio

MEASUREMENTS is a program that shows you how to measure length, mass, and volume.

When you're learning length, you see a ruler with a rectangle moving up it. You press a key to make it stop then estimate its length. If you got it right the computer shows 'You are right on target.' If you weren't too far away from the answer, it tells you your answer was acceptable. If it wasn't even acceptable, you try again. With mass, you must read a balance scale. For volume, a graduated cylinder is filled with water. You must read the scale before and after a rock is dropped in to measure the volume of the rock. The instructions are really clear--a great program! Another science program is available from K-12, called YOUR BODY.

(by mail)

Thomas F. Trocco, Science Dept. Chair
St. Hilda's & St. Hugh's School
619 West 114th Street
New York, NY 10025

(by E mail)

on PLAYNET: Thomas T
Meredith F
on COMPUSERVE: 70007,1145
on The SOURCE: BDA531

Midnite Software Gazette

GUIDELINES FOR MIDNITE REVIEWERS

Describe plot and/or features briefly. Then evaluate effectiveness, reliability, frequency of use, clarity of on-screen & written instructions & amount of disk access. Describe what you like and dislike about it. Compare to similar packages, and tell who would want to buy this product.

For Books, specify place of publication, publication date, & # of pages.

For Business programs, specify file type; size of records & fields, or text files; # of characters per field & fields per record.

For Education/Game programs, specify type of game (adventure, arcade, strategy) or type of learning (game, simulation, tutorial, drill, test, administrative); age level and subject; pre-game options, levels of difficulty & interest, continuous play, # of players, violence; graphics/sound quality, ease of play.

For Hardware, specify how it connects; software compatibility; protocols used.

For Terminal programs, specify baud rate; protocols used; upload/download features.

For Utilities programs, specify type of aid (computer, disk, graphic, sound, programming); # and quality of programs.

Now available on microfiche.

**Only the finest, most respected
publications are on microfiche.**

Bell & Howell chooses only those publications with the highest reference or research value to be made available on microfiche. This publication, among many other respected titles, has been awarded that honor.

Call or write Ms. Pam Shea, Quotations Editor
Bell & Howell, Micro Photo Division
Old Mansfield Road, Wooster, OH 44691
or call toll free 1-800-321-9881.
In Ohio call collect 1-216-264-6666.

Please send complete information about microfiche.

Title of Publication _____

Name _____ Title _____

Company _____

Co. Address _____

City _____ State _____ Zip _____

COUNTDOWN TO SHUTDOWN

Graphic Keyboard/Joystick Strategy game for C64.

\$29.95, diskette from Activision.

Countdown to Shutdown is an extremely intriguing game with only one major drawback.

You must stop the meltdown of a nuclear reactor with a team of androids which you control with joystick. Each of the eight androids has different skills and weaknesses and you must use each one effectively.

This is a mappers dream (or nightmare) because there are eight levels with over 2000 rooms....and there IS a time limit before the world blows up!

The graphics are EXTREMELY well done and very enjoyable, as is the sound. There is a Save feature so you can take a break or try dangerous stuff without starting over. This is a very enjoyable game, but the combination of protection and memory usage makes it very touchy. It will not work properly on some computers...particularly those with customized kernals or any flaws in the kernal...but you won't realize this for a long time, because it APPEARS to be playing all right....however there are certain things that will never happen and certain features that will never appear. Will not run properly on the C128 and will not load at all from the 1571.

Recommended. Art Lewis Kimball

TREASURE ISLAND

\$24.95, Diskette, graphic Adventure game from Spinnaker for C64. 90-day warranty.

Spinnaker has put this game out under their 'Windham Classics' series but don't let the names fool you...this is a Telarium product with all its faults and problems. They haven't even tried to disguise the fact...the same three-part screen, the same 'picturesoff' protocol (which does NOTHING to increase disk access time!) and the same Telarium poor quality.

The game follows the book almost too faithfully. If you have read the book there is absolutely no point in doing the game. The puzzles are simplistic, and the solutions are so obvious it's painful. Just in case you HAVEN'T read the book, they will hit you over the head with a clue if you don't solve the problem in a couple of moves!

All the resident Telarium problems are here: Interminable disk access after virtually every command; faulty instructions; and the disk I got 'locked up' about three-quarters of the way through the game! Add to this unpardonable mis-spellings of words and atrocious grammar and the whole package is another poor product.

Not recommended. Art Lewis Kimball

HACKER

\$34.95 C64 Graphic Adventure on diskette from Activision. Joystick and Keyboard. 90-day limited warranty.

This is a tough one to review, because anything said about the play might give something away! What you get is a disk and instructions on how to load the program...AND THAT'S ALL...FOLKS!

Perhaps Activision should have told us a LITTLE more...because the game amounts to more than just hacking into a computer system....once in, you are faced with a very intriguing challenge concerning the outside world!

Excellent graphics, excellent sound, and no disc access after loading. My only complaint is that it will load into a 128 (C64 mode) only from a 1541.

Highly recommended. Art Lewis Kimball

Feature Article:
HARDWARE

USING THE NCR65C02 or ROCKWELL 65C02 CHIP

by Pete Guerin

I have used the NCR65C02 (the same as the rockwell 65C02) in several VICs. We used the VICs to drive computer-controlled test equipment. It is a fully compatible "drop-in" replacement for the 6502. The 65C02 runs in an unmodified VIC, and will execute the Kernal and BASIC interpreter software perfectly. The expanded instruction set in the 65C02 fills out the 6502 repertoire quite nicely. The added instructions are:

Mnemonic	Addressing Mode	OPCODE	# of cycles	# of bytes	Explanation
ADC	(ZPG)	72	5	2	added addressing mode=zero page indirect
AND	(ZPG)	32	5	2	
BIT	Immediate	89	2	2	
BIT	ZPG,X	34	4	2	
BIT	ABS,X	3C	4	3	
BRA	Relative	80	3	2	includes 1 extra cycle because branch always taken
CMP	(ZPG)	D2	5	2	
DEA	Accumulator	3A	2	1	A-1=>A: Decrement accumulator
EOR	(ZPG)	52	5	2	
INA	Accumulator	1A	2	1	A+1=>A: Increment accumulator
JMP	(Abs.Ind,X)	7C	6	3	instead of 1 byte Indirect address, uses 2 byte or absolute indirect address
LDA	(ZPG)	B2	5	2	
ORA	(ZPG)	12	5	2	
PHX	implied	DA	3	1	push X ontop of system stack
PHY	implied	5A	3	1	push Y ontop of system stack
PLX	implied	FA	4	1	pull X off system stack
PLY	implied	7A	4	1	pull Y off system stack
SBC	(ZPG)	F2	5	2	
STA	(ZPG)	92	5	2	
STZ	Absolute	9C	4	3	00=>M: store zero directly in memory
STZ	Zero page	64	3	2	
STZ	ZPG,X	74	4	2	
STZ	ABS,X	9E	5	3	
TRB	Absolute	1C	6	3	\bar{A} M=>M turn bit(s) off in memory
TRB	Zero page	14	5	2	using mask in accumulator
TSB	Absolute	0C	6	3	A M=>M turn bit(s) on in memory
TSB	Zero page	04	5	2	using mask in accumulator

While one cannot take advantage of these extremely helpful instructions with existing software, they have given me considerable help in writing new programs. I frequently use PHX and PHY at the beginning of subroutines, or interrupt routines, or simply to temporarily save the X or Y registers. Also, the JMP (Absolute Indirect,X) is extremely valuable in executing jump tables with minimal effort, and because the indirect address is 2 bytes, the jump table may be located anywhere in 64K.

The NCR65C02 provides nice "breathing room" from the constrictions imposed by the limited 6502 instruction set, and I can strongly advocate its use in my 6502-based system.

Feature Article:
BASIC AIDS

USEFUL COMMODORE 64 POKES

compiled by Jeff Eklund
702 Park Av., N.W.
New Philadelphia OH 44663

POKE 53272,21	Upper case/Graphics mode
POKE 53272,23	Lower case/Upper case mode
POKE 657,128	Disable switching from upper to lower case
POKE 657,0	Enable switching
POKE 198,0	Clear keyboard buffer
POKE 649,15	Increase keyboard buffer
POKE 649,0	Disable keyboard
POKE 649,10	Enable keyboard or RUN/STOP RESTORE
POKE 808,237	Restore keyboard
POKE 650,128	Enable repeat all keys
POKE 650,0	Return to normal operation
POKE 56325,SP	Speed up or slow down cursor. SP is a number from 0-255. The lower the number the faster the cursor moves. Normal value=58.
POKE 808,234	Disable STOP, RESTORE and LIST
POKE 808,237	Enable STOP, RESTORE and LIST
POKE 792,193	Disable RESTORE
POKE 792,71	Enable RESTORE
POKE 808,239	Disable STOP key, but RUN STOP/RESTORE combination still works.
POKE 808,237	Enable STOP key
POKE 819,245:POKE 818,32	Disable SAVE
POKE 818,245:POKE 818,237	Enable SAVE or RUN/STOP RESTORE
POKE 775,200	Disable LIST
POKE 775,167	Enable LIST
POKE 22,35	Removes line number form listing. Doesn't effect run. To enable line #'s, deliberately cause ?SYNTAX ERROR from keyboard
POKE 774,0	List only line numbers
POKE 774,26	Restore
POKE 216,0	Disable the "insert" mode
POKE 792,226:POKE 793,252	Does a reset when you press RUN/STOP and RESTORE
POKE 775,171	Nonrecoverable system crash
To place the cursor anywhere on the screen, use:	
10 POKE 781,X :REM X POSITION	(Leftmost screen column in X position 0)
20 POKE 782,Y :REM Y POSITION	(Top line is Y position 0.)
30 POKE 783,0:SYS 65520	
40 PRINT "message"	
POKE 53280,XX	Border color. XX is a number from 0 to 15
POKE 53281,XX	Background color. XX is a number from 0 to 15.
POKE 19,64	Stops you from exiting an input prompt unless you enter something, but no line feed is executed. Therefore, you must follow INPUT with a PRINT statement, and then turn off the poke. 10 POKE 19,64:INPUT"ENTER NAME";A\$:PRINT:POKE19,0
POKE 53265,11	Turns screen off. Program runs faster.
POKE 53265,27	Turns screen on, or press RUN/STOP RESTORE

Feature Article:
BASIC AIDS

UNDOCUMENTED 64 COMMANDS

compiled by Jeff Eklund
702 Park Av., N.W.
New Philadelphia OH 44663

SPLAT FILES

A "splat" file is a file that was not properly closed. When the directory is listed, these files appear with a "*" preceding their file type, and normally cannot be read. However, if you use the "M" parameter, you may open and read any uncorrupted data.

```
OPEN8,8,8,"0:filename,S,M"
```

A splat corrupts the diskette. It will destroy other seemingly unrelated disk files. Therefore, after you have read the data, you should validate the diskette. Do not scratch the "splat" file! The only safe way to remove a "splat" file is to validate the diskette.

```
OPEN15,8,15,0":CLOSE 15
```

CLOSE ALL OPEN FILES

```
OPEN 15,8,15:CLOSE15
```

APPEND

"A" adds data to a sequential data file.

```
OPEN8,8,8,"0:filename,S,A"
```

WILD CARD

"M" opens any type of file.

```
OPEN8,8,8,"0:filename,M,A"
```

(opens any type of file for appending).

CONCATENATE

Joins up to four sequential data files into one file.

```
OPEN8,8,8,"0:newfile=file1,file2,file3,file4"
```

USING MULTIPLE PARAMETERS

Many commands permit multiple parameters.

```
OPEN8,8,8,"S0:file1,file2,file3"
```

will scratch file1, file2 and file3.

CONVERT PRG FILES TO SEQ FILES

You may transform a BASIC program into a sequential data file by loading the BASIC program into memory. Then type:

```
OPEN8,8,8,"0:filename,S,W," :CMD8:LIST  
PRINT#8:CLOSE8
```

LOAD DOS PROTECTED SOFTWARE

The following immediate mode commands will stop the read/write head from bumping repeatedly when loading protected software:

```
OPEN15,8,15  
PRINT#15,"M-W";CHR$(10)CHR$(0)CHR$(1)  
CHR$(133)  
CLOSE15
```

ONE-STEP LOAD AND RUN FOR BASIC PROGRAMS

```
LOAD"program",8:[SHIFT][RUN/STOP]
```

(Note the colon after the digit 8).

EASY BASIC LOAD

To make BASIC programs easier to load, use this special format:

```
SAVE"0:name[SHIFT & SPACE][C= & D]  
[C= & U][SHIFT & @]",8
```

When the directory is listed, you will see:

```
"NAME",8: PRG
```

All you need to do is cursor to the line and type LOAD and press RETURN.

EASY MACHINE LANGUAGE LOAD

To make machine language programs easier to load, you may rename them a special way:

```
OPEN15,8,15  
PRINT#15,"R0:newname[SHIFT & SPACE]  
[C=&D][C=&U][C=&D][C=&E]=oldname"  
CLOSE15
```

When the directory is listed, you will see:

```
"NAME",8,1 PRG
```

All you need to do is cursor to the line, type LOAD and press RETURN.

LOAD FIRST FILE ON DISKETTE

The command **LOAD"*",8** will load the first program on your diskette when you first turn your system on. After other programs have been loaded, it will load the last program loaded. If you change the command to **LOAD":*",8** it will load the first program on the diskette, regardless.

PROGRAM PROTECTION

To 'protect' a short BASIC program, save it using both the following commands:

```
SAVE"0:name,S",8 [RETURN]
```

```
SAVE"0:name,U",8 [RETURN]
```

Now load the directory and list it. The two programs will have been saved with a SEQ andUSR file type after their names, and cannot be loaded by normal methods. It can be copied, but unless you know how to load it, you can't use it. To load the programs, enter:

```
LOAD"0:name,S",8 [RETURN]
```

```
LOAD"0:name,U",8 [RETURN]
```

MORE PROGRAM PROTECTION

When you save a program, use a CHR\$ code:

```
SAVE CHR$(0)+"name",8
```

Note the unusual way the name is saved in the directory. The program must be loaded with the CHR\$ code. Enter the following:

```
LOAD CHR$(0)+"name",8
```

DISABLE LIST

Place a shifted L in a REM statement. The program cannot be listed unless a line number beyond the remark statement is specified.

INDENT LISTINGS

To indent program listings on the 64, make the first character after the line number a shifted space. The remaining characters on that line will not be left-justified when you list the program. This allows you to use loop indentation.

```
100 REM SAMPLE LOOP
```

```
110 FOR I=1 TO 10
```

```
120 PRINT "COMPUTERS ARE FUN!"
```

```
130 PRINT
```

```
140 NEXT
```

```
150 END
```

MAKING A BASIC BUG USEFUL

When documenting GOSUBS and GOTOs, instead of using REM, as in:

```
GOSUB 1000:REM *INPUT DATE
```

```
GOSUB 2000:REM *ETCETERA
```

you can fit more comments on the line by leaving out the REM, and following the destination line number with any character:

```
GOSUB 1000'INPUT DATE
```

```
GOSUB 2000'ETCETERA
```

IMPROVED INPUT

A question mark is not displayed.

[RETURN] doesn't stop program execution.

```
100 PRINT "ENTER YOUR NAME";
```

```
110 OPEN1,0:INPUT#1,N$:PRINT:CLOSE1
```

```
120 PRINT N$
```

PRINTER TAB

You may use the TAB function with the 64 and various printers as follows:

```
100 OPEN 1,4
```

```
110 N$="TEST"
```

```
120 PRINT#1,CHR$(16)"08";N$
```

```
130 CLOSE1
```

N\$ will be sent to the printer and "tabbed" to the 8th column. You must include 2 digits between the quotes.

POPULAR SYS VALUES

SYS 65511 Closes all open files automatically

SYS 64738 Cold start

SYS 58235 Warm start

SYS 65126 Alternate start

SYS 58260 Initialize

SYS 58726 CLR/HOME

SYS 59903 Clears line of text

SYS 59062 Advances cursor

SYS 59626 Scrolls a line

SYS 59137 Previous line

SYS 42562 NEW

A PLEASANT BELL

POKE54273,70:POKE 54278,249:POKE

54296,15:POKE 54276,17:POKE 54276,16

PAUSE IN PROGRAM

This command will pause the program while the SHIFT LOCK key is pressed:

```
WAIT 654,1,1
```

This is a good way to synchronize a program with an external process.

UNLUCKY NUMBER

For a surprising result, enter this number in immediate mode:

```
350800 [RETURN]
```

CORRECT BYTES FREE

```
?FRE(0)-(SGN(FRE(0)) (0)*65535+3
```

MIDNITE REVIEW FORM

Program:

Author:

Price: Media:

Which computer:

Type of program:

Company name:

Required equipment:

address:

city/ST/zip:

Optional equipment:

phone:(/ -)

Copy protected? How?

Type of Warranty:

Similar to:

Compatible with:

REVIEWER'S COMMENTS (no more than 250-500 words):

DESCRIPTION:

WHAT YOU LIKED:

WHAT YOU DIDN'T LIKE:

RECOMMENDATION (WHO SHOULD BUY IT):

OVERALL RATING: Not recommended, average, recommended, highly recommended

REVIEWER:

address:

phone:

Submit completed reviews to Midnite Software Gazette

or phone our B.B.S.

P.O. Box 1747

at 217/356-8056

Champaign, IL 61820

We will pay \$10 to each one we publish in Midnite. Be timely, detailed, but CONCISE.

Nobody copies better !!

You deserve to protect your software investment.
You can with the first (and only)
BYTE-FOR-BYTE DISK COPIER for the C-64.



Introducing...

MR. NIBBLE™

The next generation in archival methods is here today!

- No better disk copier at any price
- Easy-to-use — no complicated instructions
- Totally automatic — no knowledge of DOS required
- You'll LOVE MR. NIBBLE™ — if not, return within 10 days for full refund



FULL CIRCLE SOFTWARE, INC.
P.O. Box 1373
Dayton, Ohio 45401
Phone (513) 223-2102

\$49.95 includes shipping & handling
(Ohio residents add 6% sales tax)



10 day return privilege

"When cloning and dissecting fail, turn to MR. NIBBLE™"

Need help locating Commodore magazine articles, program listings and product reviews?

This and other widely read Commodore microcomputer magazines and journals are now indexed in **PCdex™ Magazine Resource Guide.**

PCdex™ is the ideal solution for schools, libraries, user groups, and at home—wherever Commodore microcomputer magazines are relied upon as a valuable resource.

PCdex™ is currently available in these annual volumes:

PCdex Annual™—1985 Edition

[Apr'1984/Mar'85] for \$16.95 ppd.
[\$23.95 Canadian]

PCdex™—1984 Edition

[Jan'82/Mar'84] for \$16.95 ppd.
[\$23.95 Canadian]

To order † or for more information, contact:

PCdex Publications

Box 563

See reviews of **PCdex™** in:

Dayton, OH 45409

RUN, December 1984

The Midnite Software Gazette, Issue 21, 1984

† Payment may be by check, money order, or VISA/MasterCard.
Please include card #, expiration date, and signature.

Dealer & distributor inquiries are welcome.

IT'S NO LONGER A SECRET.

KASARA Electronics, Inc.

We're the leading source for Commodore™ repairs. More dealers, distributors and large national merchants send their repair work to us than to anyone else in the nation!

Now, thanks to our expanded facilities, we are able to offer this **SAME PROFESSIONAL SERVICE** directly to you . . . no middlemen, no hidden costs, and best of all . . . **48-HOUR TURNAROUND!**

In addition to specializing in Commodore 64™ and PET™ repairs, our factory-trained technicians are experienced in servicing ALL Commodore systems and peripherals including ALL Disk Drives, Printers and Monitors.

If you have a special need requiring networking, custom wiring or programming modifications, KASARA can help. No job is too small or too large. Give us a call for details.

We're Faster

Like No Other Repair Service, WE **GUARANTEE 48-HOUR TURNAROUND** from the time we receive your unit to the time we ship it back! That's **48 HOURS . . . Guaranteed!**

We're Better

The unit you send us is *the unit we return* . . . repaired, tested and warranted. Unlike most companies, we do not exchange units. This is your assurance: **KASARA WILL NEVER RETURN SOMEONE ELSE'S PROBLEM TO YOU!!**

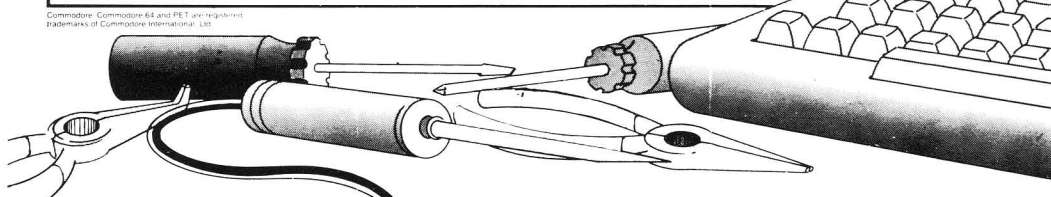
We're Cheaper

It's a simple fact, we charge **LESS** for all our Commodore repair work. **LESS** than the manufacturer . . . **LESS** than any other independent service company.

How Can We?

Today we are making our six years of Commodore expertise work for us in the Service Business. Our factory-trained technicians, the most sophisticated diagnostic equipment in the industry, our experience as 'the company behind the scenes' repairing Commodore Computers for many of America's leading merchants . . . all add up to **FASTER, BETTER and CHEAPER.**

KASARA ELECTRONICS, INC.
33 Murray Hill Drive
Suite A
Spring Valley, NY 10977
(914) 356-3131



Commodore, Commodore 64 and PET are registered trademarks of Commodore International, Ltd.

MAKE \$\$\$ MONEY



SELL SIGNS!

THE BANNER MACHINE

PROFESSIONAL QUALITY
SIGNS MADE EASILY
AND INEXPENSIVELY

COMPUTER
FEST



TODAY'S SPECIALS

THINGS	\$4.95
WIDGETS	\$6.95
DELUXE WIDGETS	\$17.50
SOOPER DOOPER	\$19.95

HAPPY BIRTHDAY
JIM! 

BEST GRAPHICS EVER!

NO BLOCK GRAPHIC CHARACTERS HERE!

ALL OF THE SIGNS HERE ARE
REDUCTIONS OF ACTUAL SIGNS

THE BANNER MACHINE (INCLUDING 5 FONTS) \$49.95
OPTIONAL FONT DISK (INCLUDING 8 FONTS) \$49.95

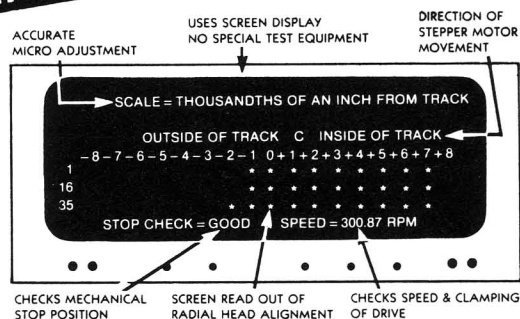
1541 PHYSICAL EXAM

N 1571 PHYSICAL EXAM
E 4040 PHYSICAL EXAM
W 8050 PHYSICAL EXAM
8250 PHYSICAL EXAM

SEE REVIEWS IN:
RUN. 6/85. P. 14
AHOY. 4/85. P. 32
MIDNITE GAZ. #23
APR-MAY/85. P. 32

PACKAGE INCLUDES:
• TRUE DIGITAL ALIGNMENT DISK WITH OFFSET TRACKS
• QUIET DRIVE STOPS TO REDUCE THE NEED FOR
CONTINUED REALIGNMENT ON ALPS AND NEUTRONICS DRIVES.

PHYSICAL EXAM \$39.95 (EACH)
EXTRA STOPS \$ 4.95 (EACH) + SHIP.
PLEASE SPECIFY WHICH DRIVE.



Cardinal Software

800 762-5645

13646 JEFF DAVIS HWY., WOODBRIDGE, VA 22191

INFO CALL: (703) 491-6502

IN CANADA: APPIN MICRO 1283 PHARMACY AVE.
SCARBOROUGH, ONTARIO M1R 2J1 (416) 443-0843